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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HOEY, ALISSA L				
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11/18/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/581,898

Applicant(s)

HEXELS, GERD

Examiner

Alissa L. Hoey

Art Unit

3765

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 37, 41, 42, 45-50, 53, 54, 58-62, 64, 71 and 72 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37, 41, 42, 45-50, 53, 54, 58-62, 64, 71 and 72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

This is in response to amendment received on 08/13/09. Claims are examined below.

Claim Objections

1. Claim 47 is objected to because of the following informalities: there is no antecedent basis for "the innersock". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 37, 41, 42, 45, 48-50, 53, 54, 58-62, 64, 71 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelzmuller et al. in view of Jones et al. (US 4,932,078).

In regard to claim 37, Stelzmuller et al. teaches a lower leg protective apparel for providing protection from one of chemical and biological noxiants (column 1, lines 7-11), the lower leg protective apparel having a plurality of plies and comprising: an outersock (1a) a laminate, disposed on an inner side of the outersock (1a), which comprises a single flexible, windproof, breathable and water-rejecting membrane (2a) which forms the outer surface of the laminate and which forms at least a barrier to

biological noxiants and at least a partial barrier to liquid chemical noxiants (column 6, lines 21-43),

a single carbon layer (4a) which is disposed underneath the membrane (2a) and which comprises carbon in one of a fibrous form and as active spherules of carbon;

an inner textile ply (column 3, lines 1-8 and column 6, lines 43-47);

an innersock (5a) disposed as a second textile ply on an inner side of the laminate, the outersock (1a), the laminate (2a, 4a, 5a) and the innersock (6a) are bonded to one another as a single unit (column 7, lines 23-31).

However, Stelzmuller et al. fails to teach wherein at least one of the outersock and the innersock is fabricated from a plurality of cuts, the seams/stitched between the cuts being sealed by a seam-sealing tape comprising a waterproof material.

Jones et al. teaches a protective garment that is formed of a plurality of cuts with seams being sealed off by a sealing tape, comprising a waterproof material (column 4, lines 57-63: figures 1).

In regard to claim 41, Jones et al. teaches wherein the plurality of piles are sewn together (column 4, lines 57-63: figure 1).

In regard to claim 42, Jones et al. teaches wherein the plurality of plies are sewn together at their upper ends and in a foot tip region (see figure 2: foot portions).

In regard to claim 45, Stelzmuller et al. teaches wherein the membrane is microporous (3a, 2a: polyurethane).

In regard to claim 48, Stelzmuller et al. teaches a lower leg protective apparel for providing protection from one of chemical and biological noxiants, the lower leg

protective apparel having a plurality of plies and comprising: an outersock (1a); a laminate (2a), disposed on an inner side of the outersock (1a), comprising a flexible, windproof and water-rejecting membrane (2a) with the membrane (2a) being one of a polyester, a polyether and a mixture of a polyester and a polyether and which forms the outer surface of the laminate (2a) and which forms at least a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants (membrane being made of polyurethane, which is a flexible, windproof, water-rejecting member that forms a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants), a single carbon layer (4a) disposed underneath the membrane (2a) and which comprises a fabric of one of a woven carbon fiber material and a loop-drawingly knit carbon fiber material and an inner textile ply (column 3, lines 1-8). A thickness of carbon layer is in a range from .02 to 1.0mm (column 6, lines 43-47) and the innersock is hydrophilic (column 6, lines 51-56; viscose is hydrophilic).

However, Stelzmüller et al. fails to teach wherein at least one of the outersock and the innersock is fabricated from a plurality of cuts, the seams between the cuts being sealed by a seam-sealing tape comprising a waterproof material.

Jones et al. teaches a protective garment that is formed of a plurality of cuts with seams being sealed off by a sealing tape, comprising a waterproof material (column 4, lines 57-63: figures 1).

In regard to claim 49, Stelzmüller et al. teaches wherein an active surface area of a carbon layer (4a) is in a range from 1000 to 1200 m²/g (column 5, lines 64-66).

In regard to claim 50, Stelzmüller et al. teaches a carbon layer.

However, Stelzmuller et al. fails to specifically teach the thickness range being from 0.2 to 1.0 mm.

With respect to the thickness of the carbon layer being .2 to 1.0 mm, one having ordinary skill in the art would be able through routine experimentation the desired thickness of a material layer based upon end use.

In regard to claim 53, Stelzmuller et al. teaches wherein the membrane is made of polyurethane, which is a flexible, windproof, water-rejecting member that forms a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants).

However, Stelzmuller et al. fails to teach the membrane being made out of cellophane.

It would have been obvious to one having ordinary skill in the art to determine through routine experimentation the type of material for the membrane. As long as the membrane is made from a flexible, windproof, breathable, water-rejecting member, and forms a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants, the membrane can be chosen from many different materials, including cellophane and polyurethane.

In regard to claim 54, Stelzmuller et al. teaches wherein the membrane comprises one of polyvinyl alcohols, polyacrylamides or polyurethane (column 6, lines 21-42).

In regard to claim 58, Stelzmuller et al. teaches wherein the outersock (1a) comprises one of wool, cotton, silk, polyester, polypropylene, polyamide, polyacrylic and

mixtures thereof (column 6, lines 21-23).

In regard to claim 59, Stelzmuller et al. teaches wherein the textile ply in the laminate is one of a woven and a loop-formingly knit fabric (column 6, lines 48-56)

In regard to claim 60, Stelzmuller et al. teaches wherein the innersock (3) is hydrophilic and made of viscose (column 6, lines 48-56).

However, Stelzmuller et al. fails to teach the innersock being made of polypropylene, polyamide, polyester and mixtures thereof.

It would have been obvious to one having ordinary skill in the art to have provided the material out of any suitable material including polypropylene polyamide, polyester and mixtures thereof, as desired for end use based upon routine experimentation.

In regard to claim 61, Stelzmuller et al. teaches wherein the ~~inside leg part~~ innersock (3) is made of manufactured fibers (column 6, lines 48-56).

In regard to claim 62, Stelzmuller et al. teaches wherein the innersock (6a) comprises one of nomex and viscose. However, it would have been obvious to one having ordinary skill in the art to have provided the material out of any suitable material including polypropylene polyamide, polyester and mixtures thereof, as desired for end use based upon routine experimentation.

In regard to claim 64, Stelzmuller et al. fails to teach wherein the inside innersock (3) is stitched with a fleecy spun yarn to at least one of the other plies.

Jones et al. teaches the use of stitching plies together to form a protective garment.

However, neither Jones et al. or Stelzmuller et al. teach the yarn being a fleecy spun type.

It would have been obvious to an artisan having ordinary skill in the art through routine experimentation to determine the type of yarn suitable for stitching in a particular garment, based upon end use.

In regard to claim 71, Stelzmuller et al. teaches wherein the inner textile ply (9) of the laminate is hydrophilic (column 6, lines 51-56).

In regard to claim 72, Stelzmuller et al. teaches a lower leg protective apparel for providing protection from one of chemical and biological noxiants (column 1, lines 7-11), the lower leg protective apparel having a plurality of plies and comprising:

an outersock (1a) a laminate, disposed on an inner side of the outersock (1a), which comprises a single flexible, windproof, breathable and water-rejecting membrane (2a) which forms the outer surface of the laminate and which forms at least a barrier to biological noxiants and at least a partial barrier to liquid chemical noxiants (column 6, lines 21-43),

a single carbon layer (4a) which is disposed underneath the membrane (2a) and which comprises carbon in one of a fibrous form;

an inner textile ply (column 3, lines 1-8 and column 6, lines 43-47);

an innersock (5a) disposed as a second textile ply on an inner side of the laminate, the

outersock (1a), the laminate (2a, 4a, 5a) and the innersock (6a) are bonded to one another as a single unit (column 7, lines 23-31). The thickness of carbon layer is in a range from .2 to 1.0mm (column 6, lines 43-47). The inner sock is hydrophilic (column 6, lines 51-56).

Stelzmuller et al. teaches the innersock being made of a hydrophilic viscose material. However, Stelzmuller et al. does not teach the hydrophilic layer being polypropylene polyamide, polyester and mixtures thereof.

It would have been obvious to one having ordinary skill in the art to have provided the hydrophilic material out of any suitable hydrophilic material including viscose, polypropylene polyamide, polyester and mixtures thereof, as desired for end use based upon routine experimentation.

However, Stelzmuller et al. fails to teach wherein at least one of the outersock and the innersock is fabricated from a plurality of cuts, the seams/stitched between the cuts being sealed by a seam-sealing tape comprising a waterproof material.

Jones et al. teaches a protective garment that is formed of a plurality of cuts with seams being sealed off by a sealing tape, comprising a waterproof material (column 4, lines 57-63: figures 1).

It would have been obvious to have provided the protective carbon layered garment of Stelzmuller et al. with the garment having pieces sewn together and the seams sealed with waterproof tape of Jones et al., since the protective carbon layered garment of Stelzmuller et al. provided in pieces sewn together, as many protective

garments are formed, additionally, with sealing tape over the seams would provide a garment with even greater protection to the user, since the seams are usually the weakest part of a protective garment. The seams being sealed with waterproof tape would further enhance the liquid and gas impermeability of the garment.

4. Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stelzmuller et al. and Jones et al. as applied to claims 37 and 48 above, and further in view of Nomi (US 5,190,806).

Stelzmuller et al. and Jones et al. fail to teach the membrane being polytetrafluoroethylene.

In regard to claims 47 and 46, Stelzmuller et al. and Jones et al. teach garment as described above in claims 37 and 48 as described above.

However, Jones and Stelzmuller et al. fail to teach the flexible, windproof and water-rejecting membrane comprising a polytetrafluoroethylene membrane (column 2, lines 27-50).

Nomi teaches the flexible, windproof and water-rejecting membrane being a polytetrafluoroethylene in a carbon layered protective garment.

It would have been obvious to have provided to have provided the protective garment of Stelzmuller et al. and Jones et al. with the carbon spherules layer and the membrane being polytetrafluoroethylene of Nomi, since the protective garment of Stelzmuller et al. and Jones et al. provided with a carbon spherules layer and the membrane being made out of polytetrafluoroethylene would provide a layered carbon

protective garment with carbon spherules that are effective to absorb gasses and a membrane that is breathable, yet resistant to water and wind.

Response to Arguments

5. Applicant's arguments filed 08/13/09 have been fully considered but they are not persuasive.

I) Applicant argues that Stelzmuller et al. fails to teach the second layer being a single layer of gas-permeable material.

Examiner notes that the claims are not limiting, since they do not detail a second layer, but a single flexible membrane. The polyurethane layer (2a) of Stelzmuller et al. is the single, flexible membrane. Just because Stelzmuller et al. teaches another polyurethane foam layer in addition to the polyurethane membrane, does not equate to the layers of Stelzmuller et al. not reading on the claims. There is no limiting phrase in the claims that requires only the listed limitations. Therefore, as long as, Stelzmuller et al. teaches a single polyurethane membrane (2a) it reads on the limitation as claimed and disclosed in Applicant's specification in paragraph 0020-0022.

II) Applicant argues that Stelzmuller et al. teaches more layers than Applicant.

Examiner notes that the claims do not require a layered structure consisting of only the required layers, but a layered structure that at least contains the layers as detailed.

III) Applicant argues that Stelzmuller et al. fails to teach a sock garment.

The Examiner notes that the claims do not limit the garment to be a sock garment or a foot garment. The claims can read on any boot, sock, pant, gaiter, etc. garment that has the required material layers. It would be beneficial for the Applicant to limit the garment to a sock garment or a foot garment to further define the invention in the claims.

IV) Applicant argues that Stelzmuller et al. fails to teach the laminate being separate from the inner and outer sock.

The claims are not require that the laminate layers have to be separate from the inner and outer sock.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alissa L. Hoey whose telephone number is (571) 272-4985. The examiner can normally be reached on M-F (8:00-5:30)Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Welch can be reached on (571) 272-4996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alissa L. Hoey/
Primary Examiner, Art Unit 3765